

**Air Pollution Control District
Jefferson County, Ky
12 November 2002**

TITLE V PERMIT SUMMARY

Company: Zeon Chemicals L.P.

Plant Location: 4100 Bells Lane, Louisville, KY 40211

Date App. Received: 15 April 1997

Date Admin. Complete: 13 June 1997

Date of Draft Permit: 26 November 2000

Date of Proposed Permit: 19 January 2001;
8 June 2001

District Engineer: Eva Addison

Permit No.: 151-97-TV (R2)

Plant ID: 0283

SIC Code(s): 2822

NAICS: 325212

AFS: 00283

Introduction:

This permit will be issued pursuant to: (1) Regulation 2.16, (2) Title 40 of the Code of Federal Regulations Part 70, and (3) Title V of the Clean Air Act Amendments of 1990. Its purpose is to identify and consolidate existing District and Federal air requirements and to provide methods of determining continued compliance with these requirements.

Jefferson County is classified as of the date above as an attainment area for lead (Pb), sulfur dioxide (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM), and particulate matter less than 10 microns (PM₁₀), and ozone (O₃) (1 hour standard); unclassifiable for particulate matter less than 2.5 microns (PM_{2.5}) and ozone (O₃) (8 hour standard).

Application Type/Permit Activity:

- ☐ Initial Issuance
- ☒ Permit Revision
 - ☒ Administrative
 - ☐ Minor
 - ☐ Significant
- ☐ Permit Renewal

Compliance Summary:

- ☒ Compliance certification signed
- ☐ Compliance schedule included
- ☐ Source is out of compliance

I. Source Description

1. **Class I Area Impacts:** This source is not located in or near a Class I area.
2. **Product Description:** The source manufactures synthetic rubber in various forms.
3. **Overall Process Description:** Nitrile and Polyacrylate (PA) rubbers, as well as Styrene-Acrylonitrile (SAN) rubber resins, are polymerized, dried, and packaged for off-site shipment. Post-drying and pre-shipment, the rubbers may be pelletized. A liquid Nitrile rubber is also produced and packaged.
4. **Site Determination:** There are no other facilities which are contiguous or adjacent and under common control. The District made this determination based on the following:

Single Source Determination for Noveon, PolyOne, OxyVinyls, and Zeon

Based on the information obtained from the companies listed above and the criteria that EPA uses for single source determination for NSR/PSD, the District has determined that the above named companies are four separate sources. The following information was used to make this determination.

The criteria that EPA uses for single source determination for NSR/PSD is as follows (you must meet all three criteria):

- , Same Industrial Grouping (same first two digit SIC code) and,
- , Common ownership or control and,
- , Contiguous or Adjacent

From information submitted by the four companies; Zeon, Noveon, and OxyVinyls have the same first two digit SIC code (28). PolyOne's SIC code is 3087. All four companies do not meet this first criteria.

The common ownership or control; Zeon, Noveon and PolyOne are 100% owned and operated by their parent companies. There is no common ownership or control between these three companies. OxyVinyls is owned 76% by Occidental Chemicals and 24% by PolyOne, but no controlling ownership for PolyOne, but, the administration board of OxyVinyls (the decision makers-- common control) is set up as a joint venture meaning a 50-50 control between PolyOne and Occidental Chemicals. OxyVinyls and PolyOne are the only two that meet the second criteria.

All four companies meet the contiguous or adjacent criteria.

As EPA pointed out at least two or more of the companies have to meet all three criteria to be considered a single source for NSR/PSD applicability, and this would effect Title V applicability. As we have stated none of the above mentioned companies meet all three criteria in conjunction with any of the others, therefore, they are all single sources for NSR/PSD applicability.

5. Emission Unit Summary:

U-ZN - Individual Processes Summary:

Tank Farms (TKF): Two raw material storage tank farms and unloading facilities.

Polymerization (PLY): Nitrile, SAN and PA rubber polymerization, process vessels and monomer recovery system.

Pieco (PCO): Liquid Nitrile rubber production facilities and associated vessels.

Drying (DRY): Rubber drying, including three (3) drying lines and associated packaging.

Spray Drying (SDR): Spray drying of SAN, PA or Nitrile products and packaging.

Pelletizing (PEL): SAN, PA or Nitrile dried rubber pelletizing and packaging.

Miscellaneous (MSC): Leak Detection and Repair (LDAR) components and non-halogenated cold solvent parts cleaners.

6. Fugitive Sources: The source monitors and reports fugitive emissions in accordance to the requirements of 40 CFR 63 Subparts U and JJJ.

7. Permit Revisions:

Revision 1, dated 03/15/2002, was an administrative permit revision that did not require public comment, to include the following changes:

- a. Change the applicable MACT standard cited on page 17, emission point E-TKF-TK-108, it was incorrectly cited as 40 CFR 63 Subpart U in the permit issued 12/30/01, it was corrected to 40 CFR 63 Subpart JJJ.
- b. Add (*See Comment 11*) to the standard section of applicable regulation 40 CFR 63 Subpart U for emission point E-TKF-TK-411 on page 20.
- c. Change the applicable District Regulation citation for air toxics from 5.12 to 5.11 on page 20 for E-PLY-PAMU.
- d. Add subscript #5 to emission points E-PLY-(TO-113, TK-101, TK-102, & CN101/2/VJ) on page 34.
- e. Change description of emission point E-PLY-S/WTk-HL-191B from Weigh Tank to *Tank S/WTk-HL-191B* on page 40.
- f. Add a closed parenthesis to the description of IA-PLY-DDM on page 41.
- g. Deleted stack S-DRY-FDR-2 from emission point E-DRY-FDR on page 48, this stack was removed in the early 1990s. Also, stack S-DRY-FDR3 the

- following statement was added (*VOC only*) on page 48, as this stack does not exhaust PM emissions, it is an exhaust point of plant air for worker benefit. Additionally (*See Comment 13*) was added to the standard section of applicable regulation 6.09 for emission point E-DRY-FDR on page 48.
- h. Deleted (*See Additional Condition 1.c.i.*) after the phrase Included with E-DRY-NCC in the standard section for emission point E-DRY-NCP on page 50.
 - i. Note number 5 on page 56 was changed to ***Emission points E-PLY-PLY-37, E-PLY-TO-113, E-PLY-TK-101, E-PLY-TK-102, and E-PLY-CN101/2/VJ are utilized in PA production only, therefore, they are not subject to either 40 CFR Part 63 Subparts U or JJJ. Associated equipment dedicated to PA production only is also not subject to either Subpart U or JJJ.*** from *Emission point E-PLY-PLY-37 is utilized in PA production only, therefore, it is exempt from both 40 CFR Part 63 Subparts U and JJJ.*
 - j. Add the sentence *For all TAPs emitted from emission points not subject to the MACT standards, 40 CFR Part 63 Subparts U or JJJ, as well as all non-organic TAP HAPs emitted from emission points subject to these MACT standards:* , to additional condition 1.b. on page 59 and additional condition 2.b. on page 61.
 - k. Change (*See Comment 7*) to (*See Comments 7 and 13*) in the header for additional condition 1.c. on page 59.
 - l. Add (*See Comment 13*) to the header for additional condition 1.d. on page 60.
 - m. Changed the last sentence in additional condition 2.a.iv., on page 61, from *The normal operating temperature range for this equipment is 450 - 600 (F).* to ***During normal operation the TCO will be operated at a minimum temperature of 450 (F).***
 - n. Changed the sentence in additional condition 2.c., on page 62, from ... *condition 1.c.i. The owner ...to ...* ***condition 1.c.i., the owner ...***
 - o. Add (*See Comment 13*) to the first sentence after the header in additional condition 2.d. on page 62.
 - p. Add (*See Comment 13*) to the first sentence of additional condition 3.d. on page 65.
 - q. Change the last sentence of additional condition 3.d. on page 65 from... *given week (or month, as appropriate) ...* to ... ***given day (or week or month, as appropriate) ...***
 - r. Add *E-SDR-1SD and E-SDR-2SD (including E-SDR-2SDCYC and E-SDR-2SDRP):* to the first sentence in additional condition 4.c.i. on page 66.
 - s. Change the last sentence of additional condition 4.c.ii., on page 66, from ...(*See Comment 6*) to ... (***See Comments 6 and 13***).
 - t. Add (*See Comment 13*) to the end of the first sentence in additional condition 4.d. on page 66.
 - u. Change the second sentence in comment #4 on page 67 from *No emission point subject "grandfather" date.* to ***Only one emission point subject "grandfather" date, and this emission point (E-PLY-PAMU) is shielded from BACT provision of this regulation.***
 - v. Add *or JJJ,* to comment #11 after Subparts U on page 68.
 - w. Change comment #12 on page 69 from ... *Point stack (as allowed with ...* to ... ***Point/stack (as allowed within ...***

- x. Add comment #13 on page 69, this comment did not exist before. *No particulates are emitted through Stack S-DRY-FDR3 of Emission Point E-DRY-FDR. Consequently, this stack is not subject to any PM or Opacity Standards, or to any associated monitoring, recordkeeping and reporting requirements, including U-ZN Additional Conditions 1.c., 1.d., 2.c., 2.d., 3.c., 3.d., 4.c. and 4.d.*
- y. Add the following comment to the insignificant table for the Butadiene Storage Tanks TK-(1B, 2B, 3B, & 4B) in the basis section on page 71 and page 10 of this permit summary. *Note: These tanks are exempt from the provisions of 40 CFR Part 63 Subpart U by the definition of storage vessel (§63,482)*

Revision 2, dated 11/12/2002, was an administrative permit revision that did not require public comment, to include the applicable requirements from 40 CFR 63 Subparts U and JJJ instead of referencing the subparts in the permit.

8. Title V Major Source Status by Pollutant:

Pollutant	Actual Emissions 2000 Data (tpy)	Major Source Status (based on PTE)
CO	N/A	No
NO _x	N/A	No
SO ₂	N/A	No
PM ₁₀	2.27	No
VOC	81.45	Yes
Single HAPs >1 tpy		
Acrylonitrile	35.35	Yes
Butadiene	12.28	Yes
Ethyl Acrylate	3.94	Yes
Styrene	26.10	Yes
Total HAPs	77.69	Yes

9. MACT Standards: 40 CFR Part 63, Subparts U and JJJ.

10. Applicable Requirements:

<input type="checkbox"/> PSD	<input checked="" type="checkbox"/> NSPS*	<input checked="" type="checkbox"/> SIP	<input type="checkbox"/> Other
<input type="checkbox"/> NSR	<input type="checkbox"/> NESHAPS	<input checked="" type="checkbox"/> District-Origin	<input checked="" type="checkbox"/> MACT

- * All U-ZN Emission Points subject to 40 CFR Part 60 Subpart Kb (NSPS) will become subject to 40 CFR Part 63 Subpart U (MACT) as of its effective date of June 19, 2001. As of that date, these Emission Points will no longer be subject to the NSPS.

11. Referenced Federal Regulations in Permit:

40 CFR Part 60 Subpart A	General Provisions
40 CFR Part 60 Subpart Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (After July 23, 1984)
40 CFR Part 63 Subpart A	General Provisions
40 CFR Part 63 Subpart U	National Emission Standards for Hazardous Air Pollutant Emissions: Group I Polymers and Resins
40 CFR Part 63 Subpart JJJ	National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins
40 CFR Part 68 Subparts A, B, D thru H	Chemical Accident Prevention Provisions

II. Regulatory Analysis

1. **Emission and Operating Caps:** The source is subject to a plant wide emission cap of 4,133 lbs VOC/day in accordance with District Regulation 6.43. In addition, the source has accepted hourly point-specific PM emission limits to avoid PSD for some emission points and accepted an annual point-specific VOC emission limit to avoid Offset and was determine by a BACT analysis, based on the following:
 - a. From the February 26, 1998, permit application (Pelletizer Line consisting of emission points: E-PEL-SEP-1; E-PEL-PEL-1; E-PEL-TK-2; E-PEL-SEP-2; E-PEL-TK-5; E-PEL-TK-4; E-PEL-CV-2; E-PEL-SEP-3; and E-PEL-SEP-4) the TSP emission increase is calculated to be 14.45 tons per year for all these emission points, and the PM₁₀ particulate matter emission to be 2.89 tons per year, therefore, Regulation 2.05 *Prevention of Significant Deterioration of Air Quality* does not apply for PM₁₀ or TSP. Since the calculated PM emissions are less than the significant level of 25 tons per year for PM and less than 15 tons per year for PM₁₀, the District determined that PSD was not triggered and permitted the source for the corresponding hourly emission limits.
 - b. From the August 12, 1998, permit application (No. 2 spray dryer modification consisting of emission points: E-SDR-2SDHPR-1; E-SDR-2SDSEP-1; E-SDR-2SDBPE; and E-SDR-2SDBPW) the TSP emission increase is calculated to be 19.71 tons per year for all these emission points, and the PM₁₀ particulate matter emission to be 0.00197 tons per year, therefore, Regulation 2.05 *Prevention of Significant Deterioration of Air Quality* does not apply for PM₁₀ or TSP. Since the calculated PM emissions are less than the significant level of 25 tons per year for PM and less than 15 tons per year for

PM₁₀, the District determined that PSD was not triggered and permitted the source for the corresponding hourly emission limits. This modification was also 18 years after the original permit and did not trigger the contemporaneous period of 10 years for modifications.

- c. From the original application dated May 31, 1991 (Addendum No. 1 - June 21, 1991; and Addendum No. 1A - July 29, 1991) and the BACT analysis dated July 29, 1991 (for the new dryer line consisting of emission points: E-DRY-PSTK-301; E-DRY-PSSCR-301A; E-DRY-PSTK-306; E-DRY-PSTK-302; E-DRY-PSSCR-302A; E-DRY-PSTK-303A; E-DRY-PSSCR-302B; E-DRY-PSTK-303B; E-DRY-PSSCR-303; E-DRY-PSTK-304; E-DRY-PSSCR-304; E-DRY-PSPRS-300; and E-DRY-PSDR) the VOC emissions for this project is calculated to be 30.256 tons per year for all these emission points combined, there, Regulation 2.04 *Construction or Modification of Major Sources In or Impacting Upon Non-Attainment Areas (Emission Offset Requirements)* does not apply for VOC. Since the calculated VOC emissions are less than the significant level of 40 tons per year for VOC, the District determined that PSD/NSR was not triggered and permitted the source for 30.256 tons VOC per year.

2. **Compliance Status:** The source signed and submitted a Title V Compliance Certification in its permit application.
3. **Operational Flexibility:** The source did request to operate under alternative operating scenarios in its Title V Permit Application for raw materials use and equipment flexibility use; however, the District has determined these do not fit the definition of an Alternative Operating Scenario, an option by which a company has defined a *specific*, alternative mode of operation.
4. **Testing Requirements:** The source is required to perform an initial PM stack test, to verify control device efficiencies and emission factors, on emission points E-SDR-1SD and E-SDR-2SD.
5. **Monitoring, Record Keeping and Reporting Requirements:** The source is required to monitor and maintain records of various operating parameters to demonstrate compliance with all applicable requirements. Compliance reporting is required semiannually, except where underlying applicable regulations require more frequent reporting.

Periodic Monitoring:

U-ZN

- a. **VOC:** Periodic monitoring for this emission unit consists of: daily record keeping of the amount of material produced, hours of operation, calculated daily average VOC emissions, and obtaining daily samples of the post-stripping monomer levels for analysis. The District has determined that the above record keeping coupled with parametric monitoring of the control

device is sufficient monitoring to demonstrate compliance with the VOC limits. For the non-halogenated cold solvent parts cleaners the District has determined that the operating and record keeping requirements specified in Regulation 7.18 are sufficient to demonstrate compliance for this emission point.

- b. **TAPs:** The source has requested to demonstrate compliance with District only enforceable Regulations 5.11 and 5.12 by implementing a Management of Change System (MOCS). This system will track changes in operation (including raw materials use) which might affect compliance with these regulations.
- c. **Particulate Matter:** The source will monitor, daily, the differential pressure drop, for the control devices on the two spray dryers (E-DRY-1SD and E-DRY-2SD). In addition, since the control device efficiency needed was significantly above 90%, the source is required to perform an initial PM stack test for these two emission points. For all other emission points subject to Regulation 6.09 or 7.08, the source has submitted one-time compliance demonstrations that the PM allowable over a range of production levels cannot be exceeded. Thus, the designation of "regulatory allowable" has been used in place of a specific PM allowable. Note the applicable regulations prescribe increasing PM allowables for increasing equipment capacities. The source also requested actual PM allowables not be included in the permit for reasons of confidentiality, as the capacity of the affected equipment could be determined from these.
- d. **Opacity:** The source is required to perform visible emissions surveys. The periodic surveys coupled with Method 9 tests, if necessary, are adequate to demonstrate compliance with the opacity standards. In addition, since these emission points normally operate without any visible emissions, a periodic confirmation of the lack of visible emissions would likely provide reasonable assurance that control equipment is operating properly and that units are complying with the particulate matter limit.

6. Off-Permit Documents:

Risk Management Plan	submitted June 21, 1999
1.18 Rule Effectiveness Plan	dated September 22, 1994
1.05 Daily VOC Compliance Plan	initially submitted May 17, 1993; revised April 14, 1997
MOCS	submitted October 2, 2000
VOC Reg. 6.24 One-time Compliance Demonstration	January 6, 2000; March 30, 2000; July 7, 2000
VOC Reg. 7.25 One-time Compliance Demonstration	January 6, 2000; November 20, 2000;

VOC Retro-BACT Evaluation and VOC Retro-BACT
PTE Calculations for Reg. 7.25
One-Time Hourly PM Compliance Demonstration

November 28, 2000;
December 11, 2000
July 17, 2000

August 24, 2000;
October 2, 2000

The District considers an "off-permit document" as a document on which a source's compliance with any given regulation(s) is contingent upon or which contains regulatory requirement(s), but is only referenced in a source's Title V Operating Permit. The designation "off-permit document" shall be made at the District's discretion, and may include, but not be limited to, documents such as Regulation 1.05 VOC compliance plans, PMPs, MOCSs, or other documents which are too voluminous to be included in a source's Title V Operating Permit, as determined by the District.

III. Other Requirements

1. **Temporary Facilities:** The source did not request to operate any temporary facilities.
2. **Short Term Activities:** The source did not report any short term activities.
3. **Compliance Schedule/Progress Reports:** The source has certified compliance with all applicable requirements; therefore, no compliance schedule or progress reports are necessary. Additionally, the source identified in its initial permit application, and subsequent addenda, applicable and non-applicable Federal and District regulations in effect at the time of the permit application. This permit grants a permit shield based upon the District's review of these documents, and the source's request for this permit shield.

Note that the source is not subject to Regulation 2.04, Construction or Modification of Major Sources in or Impacting upon Non-Attainment Areas (Emission Offset Requirements) as construction of the affected major source facilities occurred prior to the applicability date of the April 21, 1982 and no Major VOC Modifications have been made by the source since that date.

4. **Emissions Trading:** The source does not currently participate in emissions trading.
5. **Acid Rain Requirements:** The source is not subject to the Acid Rain Program.
6. **Stratospheric Ozone Protection Requirements:** Title VI of the CAAA regulates ozone depleting substances and requires a phase out of their use. This rule applies to any facility that manufactures, sells, distributes, or otherwise uses any of the listed chemicals. This source does not manufacture, sell, or distribute any of the listed chemicals; however, it does use Halon 1301 in a fire extinguishing system.
7. **Prevention of Accidental Releases 112(r):** The source does manufacture, process, use, store, or otherwise handle one or more of the regulated substances listed in 40 CFR Part 68 Subpart F and District Regulation 5.15, Chemical Accident Prevention

Provisions, in a quantity in excess of the corresponding specified threshold amount, including acrylonitrile, ammonia (anhydrous), and 1,3-butadiene. The required Risk Management Plan was submitted on June 21, 1999.

- 8. Insignificant Activities:** The following activities identified in the Title V permit application have been determined by the District to be insignificant.

Insignificant Activities		
Description	Quantity	Basis
Above-Ground Fuel Oil #2 Storage Tank (EB126FST)	various	Regulation 2.02, section 2.3.9.2
Above-Ground Diesel Fuel Storage Tank (BNTFDST)	various	Regulation 2.02, section 2.3.9.2
Research & Development (R&D) Activities	various	Regulation 2.02, section 2.3.27
Internal Combustion Engines Fixed or Mobile	various	Regulation 2.02, section 2.2
Brazing, soldering or welding equipment	various	Regulation 2.02, section 2.3.4
Woodworking, except for conveying, hogging or burning woods/sawdust	various	Regulation 2.02, section 2.3.5
Emergency relief vents or ventilating systems (not otherwise regulated)	various	Regulation 2.02, section 2.3.10
Lab ventilating & exhausting systems non-radioactive materials	various	Regulation 2.02, section 2.3.11
Tank Farm (TKF)		
Butadiene Monomer Unloading Stations (Material is unloaded under pressure with a vapor return hose utilized)	various	No Applicable Regulation
Butadiene Storage Tanks TK-1B; TK-2B; TK-3B; TK-4B (Closed Pressure Vessels with bottom fill and vapor recovery)	various	Regulation 2.02, section 2.3.26 Note: These tanks are exempt from the provisions of 40 CFR Part 63 Subpart U by the definition of storage vessel (§63,482)
Miscellaneous drums and totes	various	Regulation 2.02, section 2.3.24
Polymerization (PLY)		
Storage Tank TK-151 (VOC < 250 gallons)	various	Regulation 2.02, section 2.3.24
C-47 Storage Tank (Closed Pressure Vessel)	various	Regulation 2.02, section 2.3.26

Insignificant Activities		
Description	Quantity	Basis
Zeolite Water Tank	various	No Known Regulated Pollutants
Storage Tank for kerosene (saturated with butadiene) (Closed Pressure Vessel)	various	Regulation 2.02, section 2.3.26
Miscellaneous drums and totes	various	Regulation 2.02, section 2.3.24
Pieco (PCO)		
North & South Alum Storage Tank	various	No Known Regulated Pollutants
Miscellaneous drums and totes	various	Regulation 2.02, section 2.3.24
Spray Drying (SDR)		
Miscellaneous drums and totes	various	Regulation 2.02, section 2.3.24
Drying (DRY)		
Coagulants, Sodium Chloride, Salt Solution Unloading	various	No Known Regulated Pollutants
Miscellaneous drums and totes	various	Regulation 2.02, section 2.3.24
Pelletizing (PEL)		
Chilled Non-Contact Water Storage Tank	various	No Applicable Regulation
Refrigerated Water System (Closed System)	various	No Applicable Regulation
Miscellaneous drums and totes	various	Regulation 2.02, section 2.3.24
Miscellaneous (MSC)		
Refrigeration System (Closed System)	various	No Applicable Regulation
Miscellaneous drums and totes	various	Regulation 2.02, section 2.3.24
Maintenance Spray Painting	various	EPA White Papers
Maintenance Sand Blaster	various	EPA White Papers
Maintenance Welding Stations	various	EPA White Papers
QC & Poly Laboratories	various	EPA White Papers

- a. Insignificant Activities are only those activities or processes falling into the general categories defined in Regulation 2.02, Section 2, and not associated with a specific operation or process which there is a specific regulation. Equipment associated with a specific operation or process (Emission Unit) shall be listed with the specific

process even though there may be no applicable requirements. Information contained in the permit and permit summary shall clearly indicate that those items identified with negligible emissions have no applicable requirements.

- b. Activities identified in Regulation 2.02, Section 2, may not require a permit and may be insignificant with regard to application disclosure requirements but may still have generally applicable requirements that continue to apply to the source and must be included in the Title V permit.
 - i. A 20% opacity limit shall apply to all particulate emitting facilities not otherwise regulated (Regulation 1.14).
 - ii. No periodic monitoring shall be required for facilities designated as insignificant activities.